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ABSTRACT

Because teachers are asking for specific suggestions to help students apply comprehension skills and read content material, a mechanism that assists students in acquiring and applying specific comprehension skills as they read content texts is being investigated. The mechanism is called marginal gloss because learning activities are placed in the margins of the text. Direction and support for developing marginal gloss have come from numerous areas of related research. One such area is A. A. Smirnov's work in memory development, in which Smirnov emphasized that the active involvement of the learner and active, meaningful, and varied repetition are important in learning from text. In addition, five activities were found to characterize effective learners: (1) developing a plan in which the material is divided into meaningful parts, (2) correlating new content with prior knowledge, (3) relating content from various parts of the text, (4) using imaging as a strategy for remembering, and (5) paraphrasing the content of texts in one's own words. Many students are not able to organize their activity or vary their repetition independently, so marginal gloss may provide a specific technique teachers can use to help students organize their learning and use positive repetition. A four-page list of references is included. (HTH)

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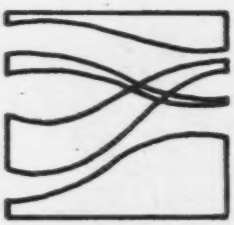

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by Sandra White and Pauline Witte

December 1979

Wisconsin Research and Development
Center for Individualized Schooling

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by

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Report from the Project on
studies in Language: Reading and Communication

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WISCONSIN RESEARCH AND DEVELOPMENT
CENTER FOR INDIVIDUALIZED SCHOOLING

ABSTRACT

Teachers are asking for specific suggestions to help students apply comprehension skills and read content material. We are investigating a mechanism to assist students in acquiring and applying specific comprehension skills as they read content texts. We call the mechanism marginal gloss because learning activities are placed in the margins of the text. Direction and support for developing marginal gloss have come from various areas of related research. For the purpose of this paper, we focus on Smirnov's (1973) work in the area of memory development. Smirnov emphasizes that the active involvement of the learner and active, meaningful, and varied repetition are important in learning from text. He identifies five activities that he has found to be characteristic of effective learners: (a) developing a plan in which the material is divided into meaningful parts; (b) correlating new content with prior knowledge; (c) relating content from various parts of the text; (d) using imaging as a strategy for remembering; and (e) paraphrasing the content of texts in one's own words. Smirnov stresses that many students are not able to organize their activity or vary their repetition independently. Marginal gloss may provide a specific technique teachers can use to help students organize their learning and use positive repetition.

IMPROVING COMPREHENSION THROUGH REPETITION...Repetition...repetition

From our observations in classrooms and interviews with teachers, we learned about several of their concerns, three of which are related to developing and applying comprehension skills: (a) Do students who have had specific skill instruction use the skills as they read content assignments? (b) What are some specific instructional techniques teachers can use to help students apply skills? and (c) What are some specific suggestions for helping students read their content-area texts? (Kamm, White, Morrison, 1977; Kamm and White, 1979)

To address these concerns we are investigating a procedure, which we call marginal gloss, designed to help students acquire and apply specific comprehension skills as they read content material. Our purpose in this paper is to (a) describe marginal gloss, (b) outline our first steps toward developing the technique, and (c) describe research support for making use of activities that require students to become actively involved and to use meaningful repetition in learning from text. Regarding the latter purpose, we believe that marginal gloss activities which expose students to meaningful repetition can help them comprehend text. In this paper, we pay particular attention to the work of Smirnov (1973), a Soviet psychologist, as it expands on the positive role of active, meaningful, and varied repetition in learning from text.

Initial Steps in the Investigation of Marginal Gloss

Marginal gloss involves activities placed in the margins of text to help students develop and apply specific comprehension skills as they read content material. The specific comprehension skills are those identified in the four major categories of the Wisconsin Design for Reading Skill Development: Comprehension Element (Otto and Kamm, 1977): (a) Word Meaning Skills (Word Parts and Context Clues), (b) Sentence Meaning Skills (Detail and Paraphrase), (c) Passage Meaning Skills (Central Thought and Relationships/Conclusions), and (d) Sequence Skills.

In the first stages of the investigation of marginal gloss, our rationale and support came from research into mathemagenic behaviors, or behaviors which produce learning (Rothkopf, 1971). This research tends to confirm the notion that active involvement of students is important to the process of comprehending. The purpose of several studies of mathemagenic behaviors has been to determine if learning from text can be improved through the use of adjunct aids such as advance organizers, instructional objectives, and inserted questions. Overall, the results from these studies show that adjunct aids seem to have a positive effect on learning from text. Marginal gloss activities in the form of inserted questions and instructions have been developed to get students to use comprehension skills and interact actively with the text.

After considering how the marginal gloss mechanism might help students develop and apply comprehension skills and after studying some of the related research, we developed prototypic materials which we tried out in an elementary school and two middle schools in three small towns

in Wisconsin (Wilkie, 1978; Otto & Associates, in progress). The students and teachers in these three schools responded positively to the materials and to the glossing technique. In one of the preliminary studies (Otto & Associates, in progress) the students who used the glossed material scored significantly higher ($p < .02$) on a posttest designed to measure application of comprehension skills than a control group which was instructed to read carefully. But this positive result was not found in another study in which students were asked to work with the glossed material for a longer period of time. In view of the promising positive effects when students use marginal gloss and the positive reactions of teachers and students, we are continuing our efforts to develop--or, at least, to understand more fully--marginal gloss as an instructional technique. We are studying the relevant research in the areas of schema-directed processes (Anderson, 1978; Rumelhart and Ortony, 1977; Kintsch, 1979; Rumelhart, in press), text representation systems (Kintsch, 1974; Meyer, 1975, 1979), cognitive development (Smirnov, 1973; Brown, 1979; Naus and Halasz, 1979), metacognition (Brown, 1977, in press; Flavell, 1978; Markman, 1978), and mathemagenic behaviors (Frase, 1975; Rothkopf, 1976; Rickards and Hatcher, 1978). While each of these areas of research has given us insight into the comprehension process and each has implications for marginal gloss activities, in this paper we limit our discussion to Smirnov's (1973) research in the area of comprehension and memory development.

Active Involvement and Repetition

In his work related to memory and comprehension, Smirnov has focused on two assumptions which are important to our work: (a) the active involvement of the student is essential in learning[1] from text; and (b) the role played by active, meaningful, and varied repetition in the learning process. Active involvement and repetition are interdependent. Smirnov stresses that positive repetition requires active involvement; likewise, if repetition is meaningful and varied, it will play a positive role in getting students actively involved in learning from text. In this section, we briefly explain active involvement and positive repetition and then discuss possible implications of both of these assumptions for marginal gloss.

The research on mathemagenic behaviors stresses the importance of student activity in learning from text. Likewise, Smirnov emphasizes the importance of "intellectual activity" in the learning process and from his experiments he concludes that "what is remembered is mainly that which lies in the main channel of our activity (p. 262)". From his interviews with his subjects, Smirnov identifies five activities that students say they use to gain better understanding when their goal is to remember what they read: (a) developing a plan in which the material is divided into meaningful parts; (b) correlating new content with prior knowledge;

[1]Smirnov uses the term memorize instead of learn in his discussion. Memorize, according to Smirnov, means to learn the material to the extent that the meaning, not the exact wording of the material, is recalled. Since to many people, the word memorize has the connotation of exact recall, we have substituted the word learn in our discussion.

(c) relating content from various parts of the text; (d) using imaging as a strategy for remembering; and (e) paraphrasing the content of texts into one's own words (p. 148). Smirnov cautions, however, that not all students are capable of initiating and carrying out these activities on their own; some students must be given specific direction in how to organize and initiate these activities as they read text. The necessity of helping students learn to carry out activities such as these through active, independent involvement underscores the need for an instructional technique and offers direction for its development. The marginal gloss mechanism holds promise for organizing activities for students and directing them in how to use the activities to comprehend text. For example, marginal gloss activities can be designed to help students develop a strategy for attending to the organization of material (i.e., drawing up a plan); marginal gloss activities can show students that they can improve their understanding of what they read if they relate new content to what they already know as well as to the content they have just read in another section; and marginal gloss can help students develop the skill of paraphrasing the language of the text into their own words as a way to help them learn from text.

Repetition often has a negative effect because the repetitions are mechanical reiterations; however, repetition can have a positive effect if it is active, meaningful and varied. As Smirnov suggests, whether repetition is positive depends on the actions which are performed and, especially, on the diversity of these actions. He says that a definite obligation of school is to help the student "vary repetition in the

process of independent work in studying school material, to teach him to set concrete differentiated tasks before rereading" (p. 268). Through his experiments, Smirnov found that many of his subjects used repetition when they were required to read to learn. From interviews he found that the mature learners consciously varied their purposes and activities with each rereading. For example, one subject said, "During the second reading I tried to comprehend and remember; for this purpose I was trying to tell it to myself, but in my own words" (p. 254). Smirnov found various stages in students' development of the ability to vary repetition in order to learn from what they have read. In the early stages, unlike the later stage described by the example of the mature learner, no conscious attempt is made to vary the activity of rereading or the purposes for rereading.

We also asked students to comment on the strategies they used as they read the text we had developed for marginal gloss (Camperell & White, in progress). Like Smirnov's subjects, many of the upper elementary students we interviewed reported that they used the strategy of rereading. We also found a range in the degree to which they varied their purposes for rereading. In most instances, their purposes for rereading were very general. For example, one student responded to the question: "What would you do to study that?" with the comment: "Probably I would read it over again to make sure I didn't miss anything." Another student responded to the question: "Why do you reread?" with the general statement: "So I'll understand it better." A few students explained more specifically why they reread. For example, one student said: "To study it I read it over and then I read it again because the

first time you read it you really don't look at too much but then the second time you really look to remember and all that. I looked it over and I tried to sort of remember the key words in the sentence." At another point in the interview, the same student said: "To study I read it over and I figured out what the whole paragraph was about and then I read over again what they wanted me to know about..." Another student was even more specific in his purpose for rereading: "I was reading, and then trying to recite it in my head and then I went back and picked out the main topic sentence."

Smirnov's findings and our interviews indicate that students frequently use repetition; however, some may need specific instruction in how to vary repetition so that it will help them learn the material they are reading. Marginal gloss, therefore, might help students use meaningful and varied repetition as they read content texts. Marginal gloss activities should organize repetition so that each rereading always involves something new and different from the previous reading (e.g., different actions, different purposes, and/or different material). Meaningful, varied, and active repetition is important as students learn to use specific skills. In other words, students should be required to apply a specific skill in a variety of different ways in different places in the text. For example, several of the marginal gloss activities focus on the skill of determining the central thought. In one section of the text, students may be asked to select the central thought of a single paragraph from several alternatives; in another activity students may be required to write the central thought for the whole section; in still

another instance students may be asked to copy the topic sentence of a specific paragraph. If marginal gloss activities help students see how to organize their activities and how to vary repetition to make it meaningful, we hope that the students would eventually begin to organize their activities and use meaningful and varied repetition on their own.

Conclusion

Teachers are asking for specific suggestions to help students apply comprehension skills and to read content material. We are investigating marginal gloss as a mechanism to assist students in acquiring and applying specific comprehension skills as they read content texts. We have found direction and support for developing marginal gloss in various areas of related research. For the purpose of this paper, we have discussed Smirnov's (1973) work in the area of memory development. Smirnov emphasizes that the active involvement of the learner and active, meaningful, and varied repetition are important in learning from text. Smirnov stresses that teachers must help students organize their activity and and help them vary their repetition. Marginal gloss provides a specific technique teachers can use to show students how to organize their activity and use positive repetition in order to learn from text.

REPETITION...Repetition...repetition -- the word repetition is repeated three times in our title, but each time the way it appears is slightly different. Likewise, repetition in instruction will have a positive effect only if the material and the student's activities vary with each repetition.

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